

AMENDMENTS TO THE CLAIMS

This listing of the claims replaces the claims as originally filed. Please amend the claims as follows:

1. (Original) An isolated sodium channel type III α subunit (mNa_v1.3 α subunit) polypeptide, wherein the polypeptide comprises the amino acid sequence of SEQ ID NO:2.
2. (Original) The polypeptide of claim 1, wherein the polypeptide essentially consists of the amino acid sequence of SEQ ID NO:2.
3. (Original) An isolated mNa_v1.3 α subunit polypeptide comprising at least 10 contiguous amino acids of SEQ ID NO:2, wherein the polypeptide includes one or more of the following amino acids: isoleucine 289, proline 518, serine 728, serine 1355, asparagine 1909, threonine 1910, and valine 1921.
4. (Currently amended) An isolated mNa_v1.3 α subunit nucleic acid molecule that encodes the polypeptide of ~~any of claims~~ claim 1 ~~[[-3]]~~.
5. (Original) The nucleic acid molecule of claim 4, wherein the nucleic acid comprises the nucleotide sequence of SEQ ID NO:1.
6. (Original) The nucleic acid molecule of claim 5, wherein the nucleic acid molecule consists essentially of the nucleotide sequence of SEQ ID NO:1.
7. (Canceled)
8. (Original) A fragment of the mNa_v1.3 α subunit nucleic acid molecule of claim 4, wherein the fragment encodes one or more of the following amino acids: isoleucine 289, proline 518, serine 728, serine 1355, asparagine 1909, threonine 1910, and valine 1921.
9. (Original) An expression vector comprising the mNa_v1.3 α subunit nucleic acid molecule of claim 4 operably linked to a promoter.
10. (Original) A host cell comprising the nucleic acid of claim 4.
11. (Original) An agent which preferentially binds to the mNa_v1.3 α subunit polypeptide of claim 1.

12. (Original) An agent which binds selectively to the mNa_v1.3 α subunit polypeptide of claim 1 and not to a sodium channel type I or type II α subunit polypeptide.
13. (Original) The agent of claim 12, wherein the agent is a small molecule, a nucleic acid, or a protein.
14. (Canceled)
15. (Canceled)
16. (Canceled)
17. (Original) A pharmaceutical composition comprising the agent of claim 12 and a pharmaceutically acceptable carrier.
18. (Currently amended) A method for modulating a mNa_v1.3 α subunit polypeptide activity in a cell, the method comprising:
 - providing a sodium channel comprising a mNa_v1.3 α subunit polypeptide, wherein the mNa_v1.3 α subunit polypeptide is according to ~~any of claims~~ claim 1[[-3]]; and
 - contacting the channel with an amount of a mNa_v1.3 α subunit polypeptide modulator effective to modulate an activity of the mNa_v1.3 α subunit polypeptide.
19. (Canceled)
20. (Currently amended) A method for identifying an agent that modulates the activity of a mNa_v1.3 α subunit polypeptide, the method comprising:
 - providing a first sodium channel comprising a mNa_v1.3 α subunit polypeptide, wherein the ~~[[a]]~~ mNa_v1.3 α subunit polypeptide is according to ~~any of claims 1- claim~~ claim 3;
 - contacting the channel with a test compound; and
 - evaluating an activity of the sodium channel, wherein a change in activity relative to a reference value is an indication that the compound is an agent that modulates the channel.
- 21.-39. (Canceled)
40. (Original) The method of claim 20, wherein the mNa_v1.3 α subunit polypeptide comprises the amino acid sequence of SEQ ID NO:2.

41. (Currently amended) A method for identifying an agent useful in the treatment of a disorder related to sodium current modulation, the method comprising:
- providing a sodium channel comprising a mNa_v1.3 α subunit polypeptide according to ~~any of claims 1-3~~ claim 3;
 - contacting the channel with a test compound; and
 - evaluating an activity of the channel, wherein a change in activity relative to a reference value is an indication that the test compound is an agent useful in a disorder related to sodium current.
42. (Canceled)
43. (Original) The method of claim 41, further comprising administering the compound in vivo.
44. (Canceled)
45. (Canceled)
46. (Original) A method for treating a subject having a disorder related to sodium channel current, the method comprising:
- identifying an agent that selectively binds a mNa_v1.3 α subunit polypeptide, and
 - administering to a subject in need of such treatment a pharmacological agent which is selective for a sodium channel comprising a mNa_v1.3 α subunit polypeptide.
47. (Original) The method of claim 46, wherein the disorder is pain, paraesthesia, stroke, head trauma, a neurodegenerative disorder, or a disorder related to hyperexcitability of neurons.